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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/740,073 | 12/18/2003 | Wilhelm Frohs | SGL 03/26 | 2136 |
| 24131 | 7590 | 04/25/2006 | EXAMINER | |
| LERNER GREENBERG STEMER LLP P O BOX 2480 HOLLYWOOD, FL 33022-2480 | | | | MILLER, DANIEL H |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1775 | |

DATE MAILED: 04/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|---------------------------|------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/740,073 | FROHS, WILHELM |
| | Examiner Daniel Miller | Art Unit 1775 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 9-24 is/are pending in the application.
 - 4a) Of the above claim(s) 22-24 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 9-22 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of group I in the reply filed on 2-06-06 is acknowledged.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 9, 12-14, 16-19, 21-22 are rejected under 35 U.S.C. 102(b) as being anticipated by (GB 1434824).

Regarding claim 9, the reference teaches an electrode made from carbon fibers mixed with cokable feedstock for manufacturing a calcined coke (column 2 page 1).

Regarding claim 12, and 13 the carbon fibers are 6 mm long (see first sentence of first example).

Regarding claim 14 the reference is silent as to the fibers being oxidized therefore they are considered non-oxidized.

Regarding the limitations of coking in a delayed coker, "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the

product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.", (*In re Thorpe*, 227 USPQ 964,966). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product (*In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113)

The coke taught by the reference is calcined, as stated above, satisfying the limitations of claim 16 are fulfilled (column 2 page 1). The process by which the coke is calcined does not provide a structural distinction over the prior art.

The reference further teaches less than 10 percent carbon fibers are employed anticipating claim 17 (see claim 2 of the reference).

Regarding the limitations regarding claim 18, It has been held that where the claimed and prior art products are identical or substantially identical in structure or are produced by identical or a substantially identical processes, a *prima facie* case of either anticipation or obviousness will be considered to have been established over functional limitations that stem from the claimed structure. *In re Best*, 195 USPQ 430, 433 (CCPA 1977), *In re Spada*, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). The *prima facie* case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed products. *In re Best*, 195 USPQ 430, 433 (CCPA 1977).

Since the structure of the carbon product referred to in the reference is the same or substantially similar to the claimed carbon product it should also have the same properties with respect to its coefficient of thermal expansion, so claim 18 is anticipated.

Regarding claim 19, the reference teaches a carbonized carbon fiber reinforced coke (see claim 1 of the reference). The reference teaches a carbon composite containing carbon fibers and being carbonized that would comprise over 70% carbon.

The coke of the reference is further graphitized to form an electrode, anticipating both claims 21 and 22 (see page 2 column 2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10 and 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over (GB 1434824) in view of (GB 1548046).

Reference '824 teaches all that is above, including using the coke in the formation of an electrode, but is silent as to the use of needle coke required by claim 10 and 20.

Reference '046 teaches it is advantageous for stronger electrodes to use exclusively needle coke (page 1 column 1).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the coke of '824 into needle coke taught by '046 for use in forming an electrode because it is taught by '824 to use the coke in an electrode and '046 teaches that using needle coke provides improves electrode strength.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over (GB 1434824).

Reference '824 teaches carbon fibers being less than 10%, but is silent as to the carbon fibers being less than 4% or 8% as recited in claim 11.

Less than 10% is considered to overlap the ranges with at most 4% and 8%. However, absent a showing of criticality with respect to the percentage of carbon fibers in the coke, it would have been obvious to a person of ordinary skill in the art at the time of the invention to optimize the percentage of carbon fibers through routine experimentation. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Response to Arguments

2. Applicant's arguments filed 2-06-06 have been fully considered but they are not persuasive. The examiner does not agree with the applicant's characterization of the references. For instance, the applicant argues that the reference, (GB 1548046), does not teach the use of needle coke examiner disagrees with this characterization of the reference. Specifically, (GB 1548046) teaches an inclusion specifically limited (column 1 at bottom of page) to needle coke, meaning comprising only needle coke, which is known to increased thermal and mechanical impact of electrodes. In the reference (claim 7) it claims a multiple constituent carbon composite comprising carbonaceous material, which is coke. The coke would inherently be needle coke since that is the only kind contemplated by the reference. The reference is clearly intending to disclose an advancement over the prior art by the inclusion of multiple carbonaceous materials including needle coke. The obvious rejection is therefore maintained.

3. At no point does applicant clearly and distinctly claim "the use of a mixture of three quite different materials." Instead applicant claims fibers ^{for} forming PAN based fibers and does not positively claim PAN carbon fibers. Applicant only claims needle coke in claims 10 and 20. Finally, with respect to the **claimed** (CTE) Coefficient of thermal expansion which is dependent from independent claim 9, the **claimed** structure is substantially similar to that disclosed in (GB 1434824). Therefore, anticipation of the inherent physical characteristic is found to exist.

4. Regarding claim 9, applicant's limitation requires the mixture has been "coked in a delayed coker", which is a process limitation not indicative of patentability of the

product. Further, the language of claim 9 does not require the coke to be needle coke. Therefore, applicant's argument with respect to claim 9 are not applicable.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Miller whose telephone number is (571)272-1534. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571)272-1540. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Daniel Miller



JENNIFER C. MCNEIL
SUPERVISORY PATENT EXAMINER
4/17/06